

US Application No. 09/846,474

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In view of the following remarks, the Examiner is requested to withdraw the rejections and allow claims 1 - 39, the only claims pending and currently under examination in this application.

AMENDMENTS TO CLAIMS

The claims have been amended merely to further clarify that which was already claimed prior to the amendments. Specifically, the feature and test locations have been labeled as such. Furthermore, certain of the claims specify that the test features do not include a previously deposited drop, support for this amendment being found, for example, at page 13, lines 28 to 30. As such, the amendments introduce no new matter to the application and their entry by the Examiner is respectfully requested.

REJECTIONS

The Examiner has first rejected claims 1-39 under 35 U.S.C. 112, second paragraph for various asserted ambiguities in the claim language. It is believed that all of the asserted issues are addressed by the above amendments, and that this rejection may therefore be withdrawn.

The Examiner next rejected claims 1-2, 5-7, 9-11, 20, 25, 27, 31-32, and 38-39 under 35 U.S.C. 103(a) as being anticipated by Little et al. (US 6,024,025) in view of Bogen et al. (US 6,541,261).

As clarified by the amendments above, all of the pending claims require depositing a reagent drop group of drops from multiple dispensers onto the same feature location to make a moiety at that feature location. The claims also require that the each drop of the drop group be deposited from the same set of multiple dispensers onto separate test locations, such that each drop of the drop group is deposited onto a separate test location. The test locations differ from the feature locations in that the

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test locations do not include a previously deposited drop, where the feature locations may or may not include a previously deposited drop.

For example, following entry of the above amendments, claim 1 reads:

1. A method of forming an addressable array of chemical moieties on a substrate, comprising:

- (a) for each feature location of said addressable array on the substrate, depositing a reagent drop set during a cycle so as to attach a corresponding moiety for that feature location; and
- (b) repeating step (a) if required, until the addressable array is formed;

wherein, for each feature location of said addressable array, a multi-dispenser drop group is deposited onto said feature location, wherein said multi-dispenser drop group includes drops which are deposited from different dispensers;

the method additionally comprising:

- (c) depositing and detecting drops of said multi-dispenser drop group from said different dispensers at respective separate test locations on the substrate, wherein each of said separate test locations does not include a previously deposited drop.

Accordingly, the claims require that the drops of a reagent drop group be deposited onto the same feature location of the array in a first step and then individually deposited onto separate test locations of the array and detected.

Little fails to teach or suggest the above limitation of the claimed invention. In particular, Little fails to teach the claimed step of additionally depositing each of the drops of a drop group onto separate test locations. Bogen has been cited for teaching the element of detecting a drop while it is being deposited. While Applicant disagrees that Bogen can be properly combined with Little to arrive at the invention of these claims, it is noted that since the Bogen reference has been cited solely for the teaching of drop detection, Bogen fails to make up the above deficiency in Little.

As such, claim 1 and the remainder of claims 2, 5-7, 9-11, 20, 25, 27, 31-32 and 38-39 that all require a same limitation discussed above are not obvious over Little in view of Bogen and this rejection may be withdrawn.

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The Examiner next rejected claims 1-2, 6, 12, 18, 20, 25, 27, 31-32, and 38-39 under 35 U.S.C. 103(a) as being unpatentable over Shalon et al. (US 6,110,426) in view of Bogen et al (US 6,541,261).

However, Shalon merely discloses how to fabricate microarrays and then detect and analyze from them after use. Shalon fails to teach or suggest that different dispensers which deposit a group of drops of a reagent drop group at the same feature location are also used to deposit drops of the reagent drop group at separate test locations on the substrate. Nor is there any such disclosure or suggestion. Bogen has been cited for teaching the element of detecting a drop while it is being deposited. While Applicant disagrees that Bogen can be properly combined with Shalon to arrive at the invention of these claims, it is noted that since the Bogen reference has been cited solely for the teaching of drop detection, Bogen fails to make up the above deficiency in Shalon.

As such, claim 1 and the remainder of claims 2, 6, 12, 18, 20, 25, 27, 31-32 and 38-39 that all require the same or narrower limitation as paragraph (c) of claim 1, are not obvious over Shalon in view of Bogen and this rejection may be withdrawn.

The Examiner next rejected claims 8-11, 13-14, and 33 under 35 U.S.C. 103(a) as being unpatentable over Little et al. in view of Bogen and further in view of Wilhelm et al (US 5,715,327). While Applicant disagrees that these references can be properly combined to arrive at the invention of these claims, it is noted that the rejected claims are dependent upon claim 1 or 25. This rejection therefore assumes that the invention of claims 1 or 25 is disclosed or suggested by Little in view of Bogen. As pointed out above, the combined teaching of Little and Bogen neither discloses nor suggests the inventions of claims 1 or 25. Accordingly, even if Little and Bogen can be combined with Wilhelm et al. in the manner suggested by the Examiner, the invention of dependent claims 8-11, 13-14, and 33 would still not be obtained. In view of the above, this rejection may now be withdrawn.

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Finally, claims 1-2, 6, 12, 18, 20, 25, 27, 31-32 and 38-39 have been rejected under 35 U.S.C. 103(a) over Shultz et al (US 6,346,290) in view of Bogen et al.

However, Schultz merely discloses how to fabricate arrays of materials. Schultz fails to disclose or suggest that different dispensers which deposit a group of drops of a reagent drop group at the same feature location are also used to deposit drops of the reagent drop group at separate test locations on the substrate. Bogen has been cited for teaching the element of detecting a drop while it is being deposited. While Applicant disagrees that Bogen can be properly combined with Schultz to arrive at the invention of these claims, it is noted that since the Bogen reference has been cited solely for the teaching of drop detection, Bogen fails to make up the above deficiency in Schultz.

As such, claim 1 and the remainder of claims 2, 6, 12, 18, 20, 25, 27, 31-32 and 38-39 that all require the same or narrower limitation as paragraph (c) of claim 1, are not obvious over Schultz in view of Bogen and this rejection may be withdrawn.

CLAIMS FREE OF THE CITED ART

It is noted that claims 3, 4, 15, 16, 17, 19, 21-24, 26, 28-30 and 34-37 were not rejected for any art-based reason in the last office action and are therefore allowable in their current form, following removal of the 112, second paragraph rejection as discussed above.

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CONCLUSION

In view of the above, it is believed that claims 1-39 as amended should now be in condition for allowance. If the Examiner is of the view that there are any outstanding issues, he is invited to call Dianne Rees at (650) 485-5999.

Respectfully submitted,


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